

WHAT IS CLAIMED IS:

1. A method for maintaining a gain of an amplifier circuit substantially constant over an extended bandwidth comprising:

providing a sourcing circuit with a substantially inductive impedance characteristic;

compensating for a reactive input impedance associated with the load; and

matching the sourcing circuit to a modulation circuit to obtain a substantially constant voltage gain from the modulation circuit.

2. The method of claim 1 wherein the providing further comprises providing at least one transistor.

3. The method of claim 2 wherein the providing further comprises configuring the transistor to exhibit a substantially inductive impedance.

4. The method of claim 2 wherein the providing further comprises coupling a resistor to the gate of the transistor.

5. The method of claim 2 wherein the providing further comprises coupling a variable resistor to the gate of the transistor.

6. The method of claim 2 wherein the providing further comprises providing an inductor.

7. The method of claim 1 wherein the compensating further comprises providing a reactive network coupled to the modulation circuit.

8. The method of claim 7 wherein the providing a reactive network further comprises providing a broadband matching network.

9. The method of claim 8 wherein the broadband matching network only partially compensates for the reactive impedance associated with the load.

10. The method of claim 8 wherein the broadband matching network over compensates for the reactive impedance associated with the load.

11. The method of claim 8 wherein the providing a broadband matching network further comprises providing a plurality of inductors, wherein at least one of the inductors is coupled to the load.

12. The method of claim 9 wherein the providing a broadband matching network further comprises providing a capacitor.

13. An amplifier with an extended bandwidth, the amplifier providing an output signal to a load, the amplifier comprising:

a sourcing circuit with a substantially inductive impedance characteristic; and

a reactive network configured to compensate for effects associated with the reactive impedance of the load.

14. The amplifier of claim 13 wherein the sourcing circuit further comprises at least one transistor configured to exhibit a substantially inductive impedance.

15. The amplifier of claim 13 wherein said amplifier includes a modulation circuit coupled to the reactive network.

16. The amplifier of claim 13 wherein the reactive network is a broadband matching network.

17. The amplifier of claim 24 wherein the broadband matching network comprises an inductor.

18. The amplifier of claim 24 wherein the reactive network is a bridged-T matching network.

19. An amplifier for driving a load, the amplifier comprising:

a sourcing circuit with a substantially inductive impedance characteristic that provides a current to the load;

a modulation circuit that modulates the current from said sourcing circuit; and

a reactive network coupled to the modulation circuit that substantially cancels reactive effects associated with the load.

20. The amplifier of claim 19 wherein the reactive network is a broadband matching network.